

time of the invention in view of Jensen et al., U.S. Patent No. 5,450,490. These rejections are respectfully traversed.

Applicant respectfully submits that claim 4 is adequately described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. An example of a technique that employs a non-linear function of first and second signal values to produce a third signal value is disclosed in lines 16 - 19 on page 27 of the present application. In this technique, the various possible symbol values are ranked according to their magnitudes, which will produce rankings that are not linear functions of such magnitudes. This technique contrasts with the linear function described from page 26, line 19 to page 27, line 1, in which SNR's are added to produce a representative signal value. Other non-linear functions will be apparent to persons of ordinary skill in the art based on the disclosures of the present invention. In view of the foregoing, applicant submits that the specification does enable one of ordinary skill in the art to make and use the invention as defined in claim 4. Therefore, claim 4 cannot lack enablement because the invention has been adequately disclosed in the specification.

A major advantage of the present invention is that the different code symbols representing a common message symbol and which are displaced in time within the audio signal, are both utilized to detect the common message symbol. The invention is especially useful for overcoming the adverse effects of burst errors. Such errors can seriously impair the ability to detect a single code signal, but are much less likely to prevent the recovery of information represented by two symbols displaced in time, as recited in claims 1 and 13.

As recited in claims 1 and 13, "the first and second code symbols representing a common message symbol. . . [are] displaced in time in the audio signal." Claims 1 and 13 further recite that, "a first signal value representing the first code symbol and a second signal value representing the second code symbol" are accumulated and

the accumulated values are used to detect the common message symbol. The detection of the common message symbol is thus based on the accumulation of values representing two code symbols displaced in time. It is much less likely that a burst error will impair the detection of both code symbols, rather than only one such symbol. Therefore, the present invention establishes a more reliable system and method for detecting the presence of a message symbol by utilizing redundant symbols representing the same information and separated in time, which are more likely to survive burst errors.

Because independent claims 1 and 13 are not anticipated by the '490 patent, none of the claims that depend thereon can be anticipated by the '490 patent. Therefore, claims 2 to 12, and claims 14 and 15 are not anticipated by the '490 patent.

Claim 16 requires "an input device for receiving first and second code symbols representing a common message symbol, the first and second symbols being displaced in time in the audio signal." Claim 16 further requires "the digital processor being ... programmed to examine the accumulated first and second signal values to detect the common message symbol." Unlike the '490 patent, claim 16 of the present invention requires examination of the first and second signals displaced in time in order to detect a common message symbol. The '490 patent does not disclose a system which examines redundant signals displaced in time to detect a common message symbol. Because the '490 patent does not teach or disclose this feature, as required by independent claim 16, it cannot anticipate it.

Because independent claim 16 is not anticipated by the '490 patent, none of the claims that depend thereon can be anticipated by the '490 patent. Therefore, claims 17 and 18 are not anticipated by the '490 patent.

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June 29, 2001

It is respectfully submitted that claims 1 to 18, all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,



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